WAYS TO SAVE MONEY AND MANUFACTURE INNOVATIVE PRODUCTS WHILE USING COMPOSITES

November 14-15 • UDRI and Dayton Composites Center • Dayton, OH

Composites One and the Closed Mold Alliance, in partnership with IACMI - The Composites Institute invite you to attend Composite$ Innovation$! You do not want to miss this all new workshop focused on composite structure cost reduction innovations.

November 14
2:00 p.m. - 5:00 p.m.
University of Dayton Research Institute (UDRI) - Meyer Room
1700 South Patterson Blvd
Dayton, OH 45409

Networking Reception
5:00 p.m. - 8:00 p.m.
University of Dayton Research Institute - River View Cafe
Join us for a networking reception and supper-by-the-bite from 5:00 p.m. - 8:00 p.m. on Wednesday, November 14. Here we will have an open bar and hors d’oeuvres. Network with Composite$ Innovation$ presenters and attendees while continuing conversations!

November 15
8:00 a.m. - 4:00 p.m.
Dayton Composites Center
2000 Composite Dr
Kettering, OH 45420

Register online at www.compositesinnovations.eventbrite.com

SPONSORED BY:

PRESENTED BY:
Wednesday, November 14 Sessions will take place at the University of Dayton Research Institute Headquarters  
University of Dayton Research Institute (UDRI) - Meyer Room  
1700 South Patterson Blvd  
Dayton, OH 45409

2:00 p.m.   Welcome Remarks  
Brian Rice, Distinguished Research Engineer, University of Dayton Research Institute

2:15 p.m.   Strategic Importance of Ohio’s Composites Industry  
Brief discussion on strength of Ohio’s composites industry and ties to Ohio core industries.  
Presented By: Glenn Richardson, Managing Director Aerospace & Manufacturing, JobsOhio

2:30 p.m.   Reverse Engineering and QA Using Laser Metrology  
A demonstration on the use of a Creaform laser metrology system to rapidly create a CAD file from a component, custom redesign for development of tooling and productivity aids, and dimensional inspection for QA.  
Presented By: Solomon Duning, AM Engineer, UDRI

2:45 p.m.   Polymeric Additive Tooling and Manufacturing Aids for Composites  
Demonstration of AM technology that’s been developed to support composite tooling with service temperature to 375F and productivity aids.  
Presented By: Scott Huelskamp, Manufacturing Engineer, UDRI

3:00 p.m.   Break

3:10 p.m.   Fiber Preform Innovations  
Panel discussion where speakers will discuss several technologies supporting dry fiber preforming and novel tooling in support of reduced touch labor for composite manufacturing. Physical demonstrations will occur on November 15.  
Presented By: Tom Margraf, Director of Engineering, Spintech; Matthew Berning, Product Engineer, Owens Corning; and Scott Huelskamp, Manufacturing Engineer, UDRI

4:10 p.m.   Innovations in Composite Structure Cost Reduction  
A discussion regarding Air Force directives to seek composites manufacturing technologies which may lead to reduced acquisition cost and a robust industrial base.  
Presented By: Craig Neslen, Manufacturing Engineer, AFRL Mantech

4:55 p.m.   Agenda Preview - Thursday, November 15  
Presented By: Jeff Reber, Lead Technical Support Manager, Composites One

5:00 p.m.   Networking Reception  
University of Dayton Research Institute - River View Cafe  
Join us for a networking reception and supper-by-the-bite from 5:00 p.m. - 8:00 p.m. Here we will have an open bar and hors d'oeuvres. Network with Composite$ Innovation$ presenters and attendees and continue conversations!
# Agenda

**Thursday, November 15 sessions will take place at the Dayton Composites Center**

**Dayton Composites Center**

2000 Composite Dr
Kettering, OH 45420

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>8:15 a.m.</td>
<td><strong>Welcome Remarks</strong></td>
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<td></td>
<td>Ashley Duncan, Pultrusion Technology Manager, Composites One</td>
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<td>Robin Pate, COO, IACMI - The Composites Institute</td>
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<td>8:20 a.m.</td>
<td><strong>Demo Overview</strong></td>
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<td>Jeff Reber, Lead Technical Support Manager, Composites One</td>
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<td>8:30 a.m.</td>
<td><strong>Solvay Prepreg Demonstration</strong></td>
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<td>Demonstration of Solvay’s carbon / epoxy tooling prepreg. Demonstration will include lay-up techniques and processing for the D-form tooling &quot;tiles&quot; along with how this unique product differs from conventional prepreg materials.</td>
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<td><strong>Presented By:</strong> Kevin Jackson, Senior Technical Services Engineer, Solvay</td>
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<td>9:00 a.m.</td>
<td><strong>Manufacture of Fiber Reinforced Components in a Spraying Process</strong></td>
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<td>Location: Dayton Room</td>
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<td>Hennecke provides multiple PU composite solutions that incorporate chopped fiber; LFT, Open spray and honeycomb panel. Our new rovings chopper is capable of chopping glass, carbon and basalt fibers at lengths of 4mm-56mm. Hennecke will discuss these process and the new chopper and process benefits.</td>
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<td><strong>Presented By:</strong> Dan Rozelman, Senior Sales Manager, Henneke</td>
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<td>9:40 a.m.</td>
<td><strong>Break - Visit Our Vendor Tables!</strong></td>
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<td>9:55 a.m.</td>
<td><strong>Epoxy Infusion Demo</strong></td>
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<td>Demonstration will show the vacuum infusion process using a Pro-Set epoxy resin, Vectorply carbon and glass reinforcements and a 3A core material. This is a room temperature process utilizing standard vacuum infusion consumables.</td>
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<td><strong>Presented By:</strong> Jim Noonan, Technical Support Manager, Composites One; Matthew Berning, Area Sales Manager, Owens Corning; and Eric Heilshorn, Lantor Product Manager, 3A Composites</td>
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<td>10:25 a.m.</td>
<td><strong>NanoStitch – Bringing Nano-Enhanced Composites to Commercial Scale</strong></td>
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<td>Location: N12 Lab</td>
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<td>A brief overview on NanoStitch technology will be presented followed by a plant tour.</td>
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<td><strong>Presented By:</strong> Paul Jarosz, Director of Science and Technology, N12 Technologies</td>
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<td>11:25 a.m.</td>
<td><strong>An Introduction to Tailored Fiber Placement Preforming Technology</strong></td>
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<td>Location: High Bay</td>
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<td>Live demonstration of the automated preforming technology, review of novel fiber architecture concepts, and conversion to composite components with minimal touch labor.</td>
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<td><strong>Presented By:</strong> Scott Huelskamp, Manufacturing Engineer, UDRI</td>
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<td>11:25 a.m.</td>
<td><strong>LRTM Demonstration</strong></td>
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<td>Demonstration of the Light RTM Process and will include tooling, part lay-up and resin injection.</td>
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<td><strong>Presented By:</strong> Doug Smith, President, RTM North; Travis Irvin, Sales Manager, Chomarat; Rick Pauer, Applications Manager, Polyn; Michael Ciesielski, Sales Representative, MVP; Eric Heilshorn, Lantor Product Manager, 3A Composites</td>
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Kettering, OH 45420

11:55 a.m. Lunch

12:40 p.m. Pro-Set High Temperature Epoxy Demonstration
Presentation and demonstration of Pro-Set's high temperature surface coats and resins for tooling. Includes a processing overview of Pro-Set’s hand laminating and infusion materials.
Presented By: Jeff Reber, Lead Technical Support Manager, Composites One; and Jeff Wright, Pro-Set

1:10 p.m. Injection Overmolding with TFP Preforms  l  Location: Lab
Live demonstration of injection overmolding utilizing TFP preforms to fabricate high rate small composite components.
Presented By: Jared Stonecash, Group Leader, UDRI

1:20 p.m. Break - Visit Our Vendor Tables!

1:25 p.m. Carbon/Glass Fiber Hybrid Roving and Chopped Stitched Mat  l  Location: High Bay
Discussion of a novel hybrid roving developed for enhanced strength and stiffness of chopped fiber forms.
Presented By: Matthew Berning, Product Engineer, Owens Corning

2:10 p.m. Break - Visit Our Vendor Tables!

2:25 p.m. Materia Proxima DCPD Resin
Presentation and process demonstration will show the benefits of Materia’s resin and applications for it.
Presented By: Jeff Reber, Lead Technical Support Manager, Composites One and Amal Bitar, Senior Sales Account Manager, Materia Inc.

2:55 p.m. Silicone Bag Infusion
Demonstration where we will build a part using a UDRI-made preform. The preform tooling was 3D printed at UDRI and the part will be vacuum infused using a reusable silicone vacuum bag.
Presented By: Jim Noonan, Technical Support Manager, Composites One, Rick Pauer, Applications Manager, Polynt; and Michael Ciesielski, Sales Representative, MVP

3:25 p.m. Braids and Smart Tooling Concepts for Hollow Structures
Discussion on the use of A&P overbraiding technology and Spintech Smart Tooling to produce complex composite preforms and components.
Presented By: Tom Margraf, Director of Engineering, Spintech

4:10 p.m. Closing Remarks

For More Information and to Register, Visit:
www.nasampe.org/members/group.aspx?code=midwest